

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Met Asp Gly Lys Ser Lys Met Gln Ala Glu Lys His Leu Thr Gly Thr
1 5 10 15
Leu Val Leu Ser Val Phe Thr Ala Val Leu Gly Phe Phe Gln Tyr Gly
20 25 30
Tyr Ser Leu Gly Val Ile Asn Ala Pro Gln Lys Val Ile Glu Ala His
35 40 45
Tyr Gly Arg Met Leu Gly Ala Ile Pro Met Val Arg His Ala Thr Asn
50 55 60
Thr Ser Arg Asp Asn Ala Thr Ile Thr Val Thr Ile Pro Gly Thr Glu
65 70 75 80
Ala Trp Gly Ser Ser Glu Gly Thr Leu Ala Pro Ser Ala Gly Phe Glu
85 90 95
Asp Pro Thr Val Ser Pro His Ile Leu Thr Met Tyr Trp Ser Leu Ser
100 105 110
Val Ser Met Phe Ala Val Gly Gly Met Val Ser Ser Phe Thr Val Gly
115 120 125
Trp Ile Gly Asp Arg Leu Gly Arg Val Lys Ala Met Leu Val Val Asn
130 135 140
Val Leu Ser Ile Ala Gly Asn Leu Leu Met Gly Leu Ala Lys Met Gly
145 150 155 160
Pro Ser His Ile Leu Ile Ile Ala Gly Arg Ala Ile Thr Gly Leu Tyr
165 170 175
Cys Gly Leu Ser Ser Gly Leu Val Pro Met Tyr Val Ser Glu Val Ser
180 185 190
Pro Thr Ala Leu Arg Gly Ala Leu Gly Thr Leu His Gln Leu Ala Ile
195 200 205
Val Thr Gly Ile Leu Ile Ser Gln Val Leu Gly Leu Asp Phe Leu Leu
210 215 220
Gly Asn Asp Glu Leu Trp Pro Leu Leu Leu Gly Leu Ser Gly Val Ala
225 230 235 240
Ala Leu Leu Gln Phe Phe Leu Leu Leu Cys Pro Glu Ser Pro Arg
245 250 255
Tyr Leu Tyr Ile Lys Leu Gly Lys Val Glu Glu Ala Lys Lys Ser Leu
260 265 270
Lys Arg Leu Arg Gly Asn Cys Asp Pro Met Lys Glu Ile Ala Glu Met
275 280 285
Glu Lys Glu Lys Gln Glu Ala Ala Ser Glu Lys Arg Val Ser Ile Gly
290 295 300
Gln Leu Phe Ser Ser Lys Tyr Arg Gln Ala Val Ile Val Ala Leu
305 310 315 320
Met Val Gln Ile Ser Gln Gln Phe Ser Gly Ile Asn Ala Ile Phe Tyr
325 330 335
Tyr Ser Thr Asn Ile Phe Gln Arg Ala Gly Val Gly Gln Pro Val Tyr
340 345 350
Tyr Ala Thr Ile Gly Val Gly Val Val Asn Thr Val Phe Thr Val Ile
355 360 365
Ser Val Phe Leu Val Glu Lys Ala Gly Arg Arg Ser Leu Phe Leu Ala
370 375 380
Gly Leu Met Gly Met Leu Ile Ser Ala Val Ala Met Thr Val Gly Leu
385 390 395 400
Val Leu Leu Ser Gln Phe Ala Trp Met Ser Tyr Val Ser Met Val Ala
405 410 415
Ile Phe Leu Phe Val Ile Phe Phe Glu Val Gly Pro Gly Pro Ile Pro
420 425 430
Trp Phe Ile Val Ala Glu Leu Phe Ser Gln Gly Pro Arg Pro Ala Ala
435 440 445
Ile Ala Val Ala Gly Phe Cys Asn Trp Ala Cys Asn Phe Ile Val Gly
450 455 460

Met Cys Phe Gln Tyr Ile Ala Asp Leu Cys Gly Pro Tyr Val Phe Val
 465 470 475 480
 Val Phe Ala Val Leu Leu Leu Val Phe Phe Leu Phe Ala Tyr Leu Lys
 485 490 495
 Val Pro Glu Thr Lys Gly Lys Ser Phe Glu Glu Ile Ala Ala Ala Phe
 500 505 510
 Arg Arg Lys Lys Leu Pro Ala Lys Ser Met Thr Glu Leu Glu Asp Leu
 515 520 525
 Arg Gly Gly Glu Glu Ala
 530

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 494 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Met Gly Thr Thr Lys Val Thr Pro Leu Ile Phe Ala Ile Ser Ile
 1 5 10 15
 Ala Thr Ile Gly Ser Phe Gln Phe Gly Tyr Asn Thr Gly Val Ile Asn
 20 25 30
 Ala Pro Glu Ala Ile Ile Lys Asp Phe Leu Asn Tyr Thr Leu Glu Glu
 35 40 45
 Arg Ser Glu Thr Pro Pro Ser Ser Val Leu Leu Thr Ser Leu Trp Ser
 50 55 60
 Leu Ser Val Ala Ile Phe Ser Val Gly Gly Met Ile Gly Ser Phe Ser
 65 70 75 80
 Val Gly Leu Phe Val Asn Arg Phe Gly Arg Arg Asn Ser Met Leu Ile
 85 90 95
 Val Asn Leu Leu Ala Ile Ala Gly Gly Cys Leu Met Gly Phe Cys Lys
 100 105 110
 Ile Ala Glu Ser Val Glu Met Leu Ile Leu Gly Arg Leu Ile Ile Gly
 115 120 125
 Leu Phe Cys Gly Leu Cys Thr Gly Phe Val Pro Met Tyr Ile Gly Glu
 130 135 140
 Ile Ser Pro Thr Ala Leu Arg Gly Ala Phe Gly Thr Leu Asn Gln Leu
 145 150 155 160
 Gly Ile Val Ile Gly Ile Leu Val Ala Gln Ile Phe Gly Leu Lys Val
 165 170 175
 Ile Leu Gly Thr Glu Asp Leu Trp Pro Leu Leu Leu Gly Phe Thr Ile
 180 185 190
 Leu Pro Ala Ile Ile Gln Cys Ala Ala Leu Pro Phe Cys Pro Glu Ser
 195 200 205
 Pro Arg Phe Leu Leu Ile Asn Arg Lys Glu Glu Lys Ala Lys Glu
 210 215 220
 Ile Leu Gln Arg Leu Trp Gly Thr Glu Asp Val Ala Gln Asp Ile Gln
 225 230 235 240
 Glu Met Lys Asp Glu Ser Met Arg Met Ser Gln Glu Lys Gln Val Thr
 245 250 255
 Val Leu Glu Leu Phe Arg Ala Pro Asn Tyr Arg Gln Pro Ile Ile Ile
 260 265 270
 Ser Ile Met Leu Gln Leu Ser Gln Gln Leu Ser Gly Ile Asn Ala Val
 275 280 285
 Phe Tyr Tyr Ser Thr Gly Ile Phe Lys Asp Ala Gly Val Gln Glu Pro
 290 295 300
 Val Tyr Ala Thr Ile Gly Ala Gly Val Val Asn Thr Ile Phe Thr Val
 305 310 315 320

Val Ser Val Phe Leu Val Glu Arg Ala Gly Arg Arg Thr Leu His Leu
 325 330 335
 Ile Gly Leu Gly Gly Met Ala Phe Cys Ser Ile Leu Met Thr Ile Ser
 340 345 350
 Leu Leu Leu Lys Asp Asn Tyr Ser Trp Met Ser Phe Ile Cys Ile Gly
 355 360 365
 Ala Ile Leu Val Phe Val Ala Phe Phe Glu Ile Gly Pro Gly Pro Ile
 370 375 380
 Pro Trp Phe Ile Val Ala Glu Leu Phe Gly Gln Gly Pro Arg Pro Ala
 385 390 395 400
 Ala Met Ala Val Ala Gly Cys Ser Asn Trp Thr Ser Asn Phe Leu Val
 405 410 415
 Gly Leu Leu Phe Pro Ser Ala Thr Phe Tyr Leu Gly Ala Tyr Val Phe
 420 425 430
 Ile Val Phe Thr Val Phe Leu Val Ile Phe Trp Val Phe Thr Phe Phe
 435 440 445
 Lys Val Pro Glu Thr Arg Gly Arg Thr Phe Glu Glu Ile Thr Arg Ala
 450 455 460
 Phe Glu Gly Gln Val Gln Thr Gly Thr Arg Gly Glu Lys Gly Pro Ile
 465 470 475 480
 Met Glu Met Asn Ser Ile Gln Pro Thr Lys Asp Thr Asn Ala
 485 490

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 509 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Met Pro Ser Gly Phe Gln Gln Ile Gly Ser Glu Asp Gly Glu Pro Pro
 1 5 10 15
 Gln Gln Arg Val Thr Gly Thr Leu Val Leu Ala Val Phe Ser Ala Val
 20 25 30
 Leu Gly Ser Leu Gln Phe Gly Tyr Asn Ile Gly Val Ile Asn Ala Pro
 35 40 45
 Gln Lys Val Ile Glu Gln Ser Tyr Asn Glu Thr Trp Leu Gly Arg Gln
 50 55 60
 Gly Pro Glu Gly Pro Ser Ser Ile Pro Pro Gly Thr Leu Thr Thr Leu
 65 70 75 80
 Trp Ala Leu Ser Val Ala Ile Phe Ser Val Gly Gly Met Ile Ser Ser
 85 90 95
 Phe Leu Ile Gly Ile Ile Ser Gln Trp Leu Gly Arg Lys Arg Ala Met
 100 105 110
 Leu Val Asn Asn Val Leu Ala Val Leu Gly Gly Ser Leu Met Gly Leu
 115 120 125
 Ala Asn Ala Ala Ala Ser Tyr Glu Met Leu Ile Leu Gly Arg Phe Leu
 130 135 140
 Ile Gly Ala Tyr Ser Gly Leu Thr Ser Gly Leu Val Pro Met Tyr Val
 145 150 155 160
 Gly Glu Ile Ala Pro Thr His Leu Arg Gly Ala Leu Gly Thr Leu Asn
 165 170 175
 Gln Leu Ala Ile Val Ile Gly Ile Leu Ile Ala Gln Val Leu Gly Leu
 180 185 190
 Glu Ser Leu Leu Gly Thr Ala Ser Leu Trp Pro Leu Leu Gly Leu
 195 200 205
 Thr Val Leu Pro Ala Leu Leu Gln Leu Val Leu Leu Pro Phe Cys Pro
 210 215 220